APRIL/MAY 2024

23USEL13 — ELECTRONIC COMMUNICATION SYSTEMS

Time : Three hours Maximum : 75 marks

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SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is Meant by radiation intensity?
2. What is dis cone antenna?
3. What is skip distance?
4. What do you mean by radio horizon?
5. Define Modulation.
6. Mention the different components of AM wave.
7. Write the expression for the instantaneous voltage of AM wave?
8. What is frequency modulation?
9. What is pulse modulation?
10. Mention the type of pulse modulation.

SECTION B — (5 × 5 = 25 marks)

Answer ALL the questions.

11. (a) Explain the different modes of operation of helical antenna.

Or

(b) Sketch a discone antenna, and use the sketch to describe its operation. For what applications is it suitable?

12. (a) Explain the ground wave propagation.

Or

(b) Explain the maximum usable frequency.

13. (a) Explain the needs of modulation.

Or

(b) Explain the AM radio transmitter.

14. (a) Derive the equation of frequency modulated wave.

Or

(b) Explain the FM receiver.

15. (a) Describe the generation of PAM signal.

Or

(b) Discuss the generation of PCM signal.

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SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Discuss the dish antenna.

17. In connection with space-wave propagation, what is the radio horizon? How does it differ from the optical horizon?

18. Explain : Super heterodyne receiver.

19. Describe the FM transmitter.

20. Describe the sampling theorem.

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